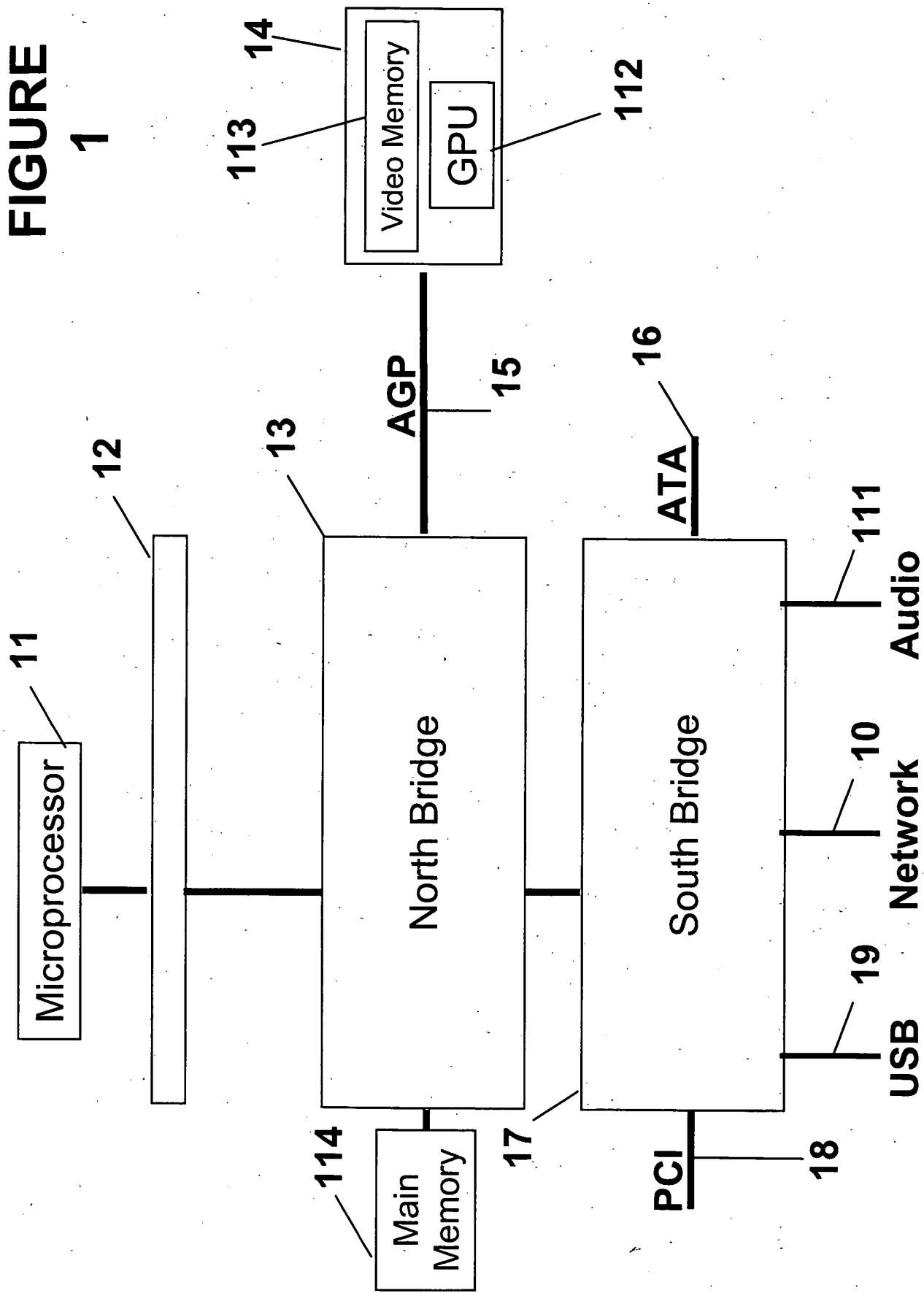
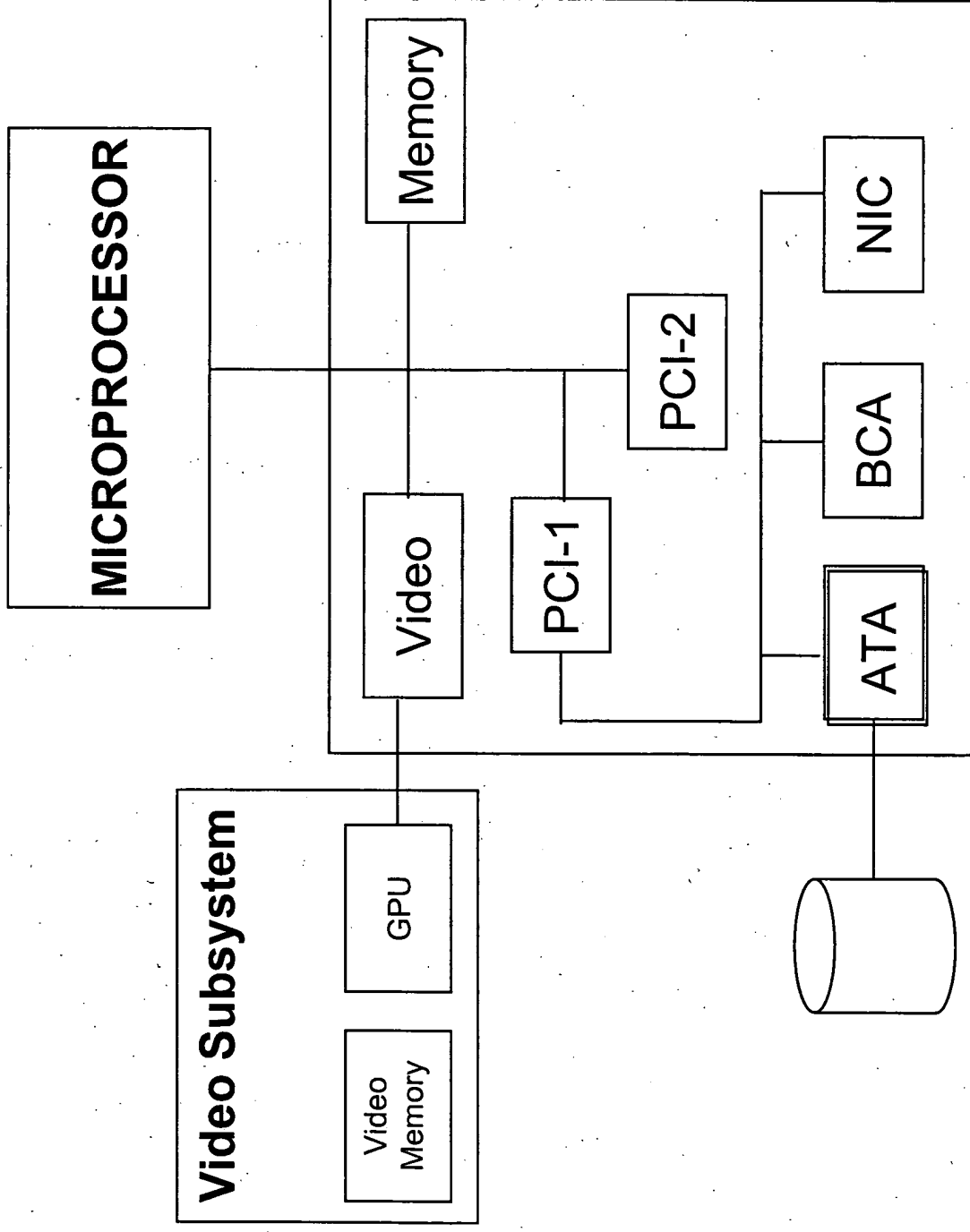


**FIGURE
1**



**FIGURE 2(a)**

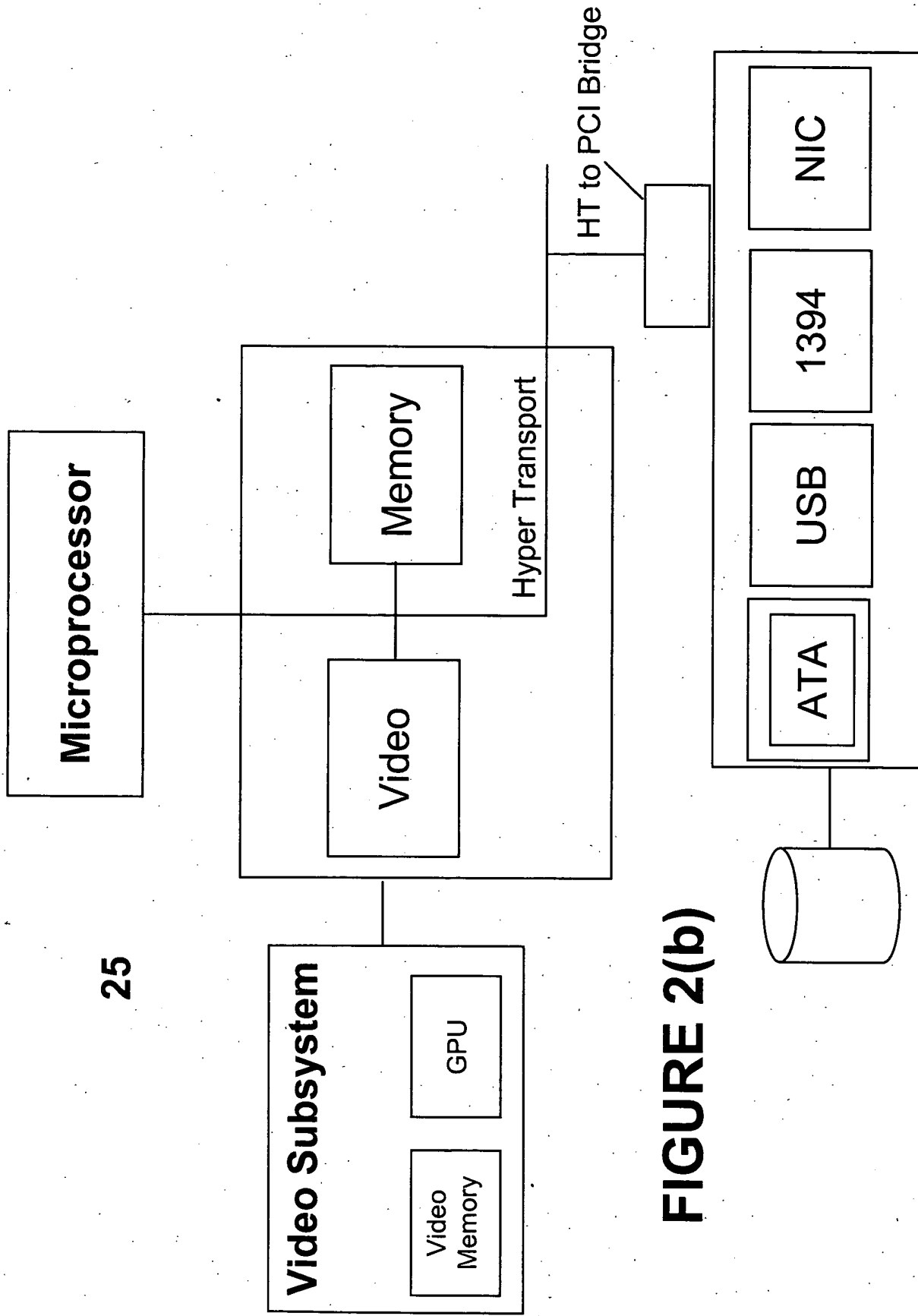


FIGURE 2(b)

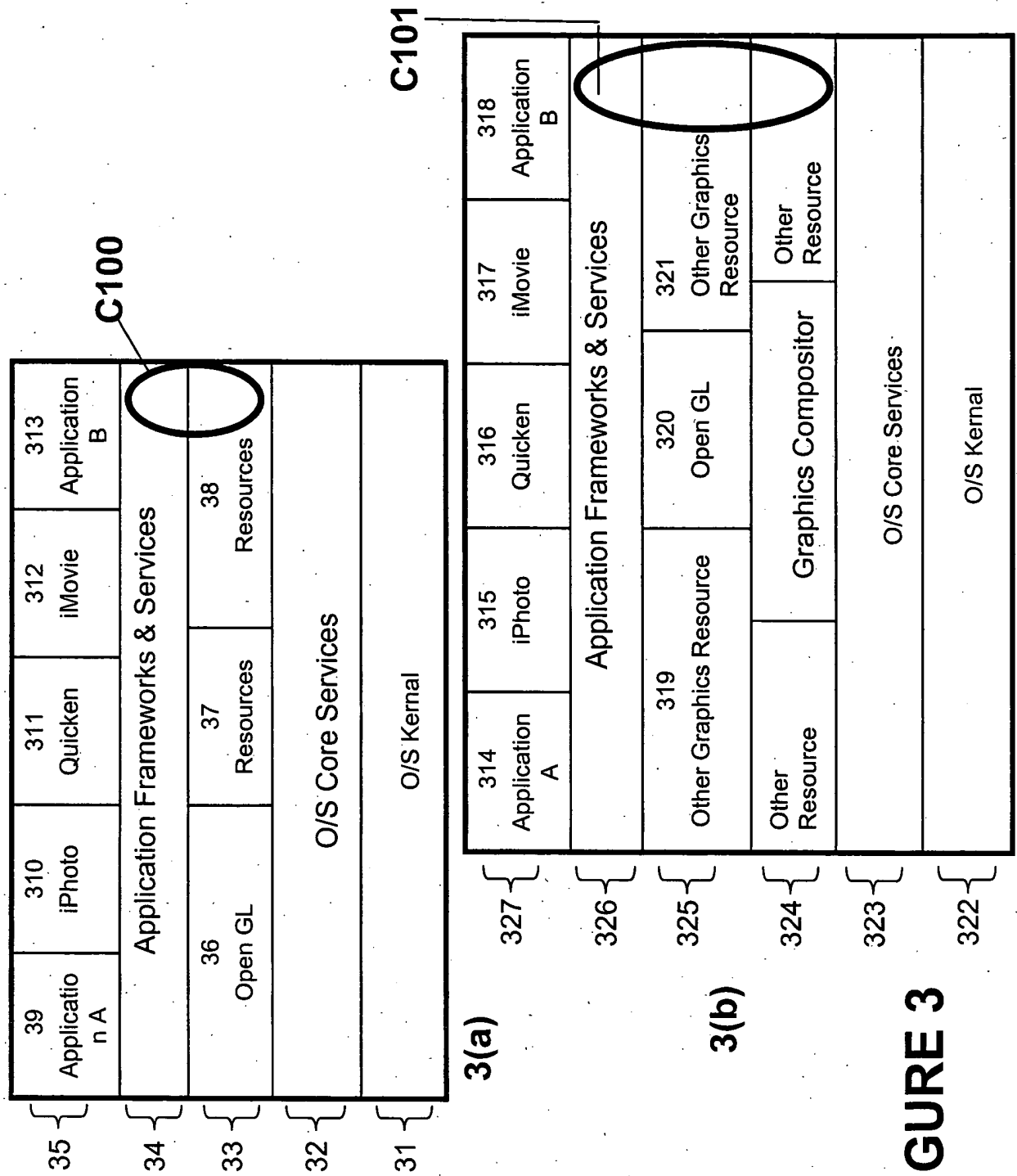


FIGURE 3

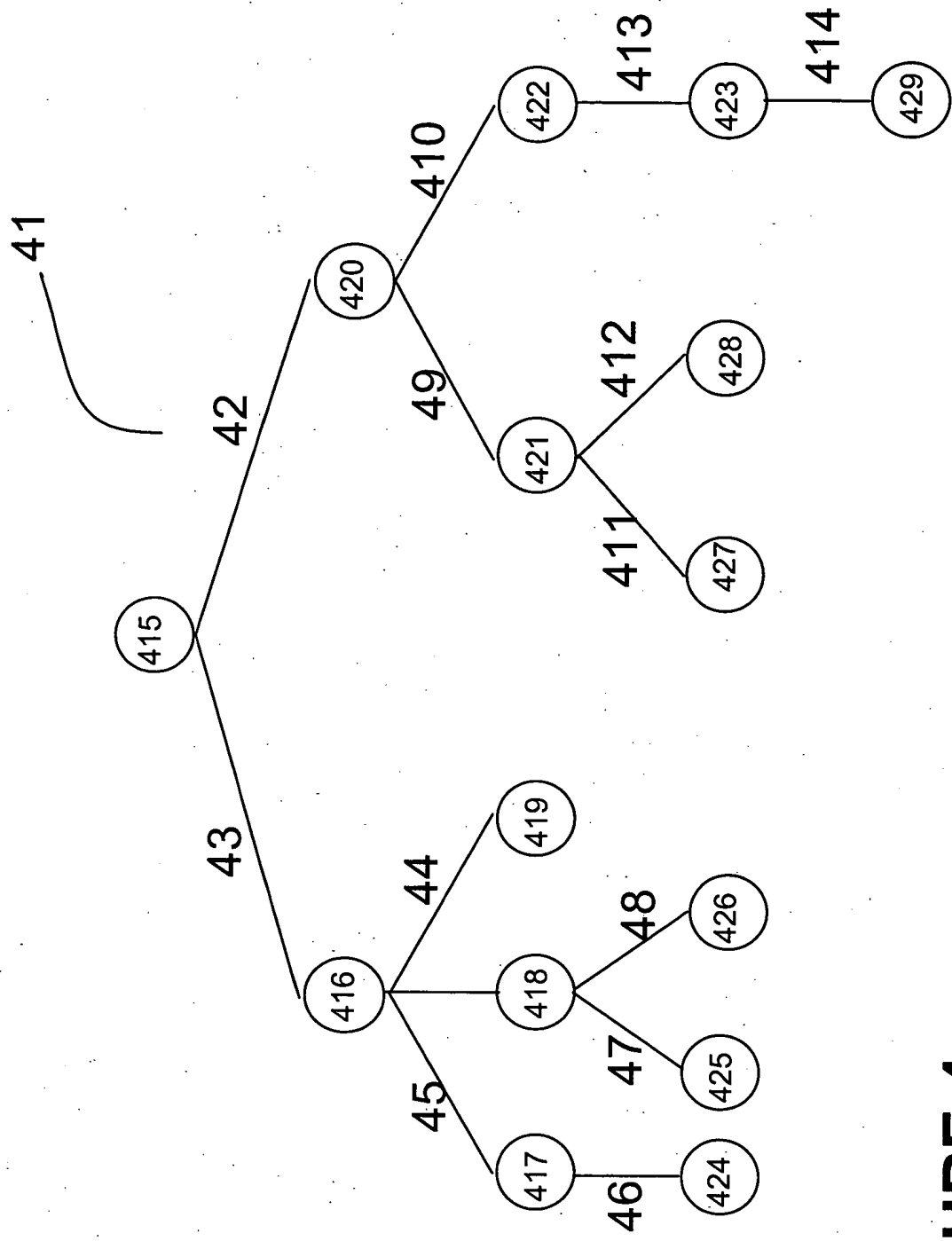
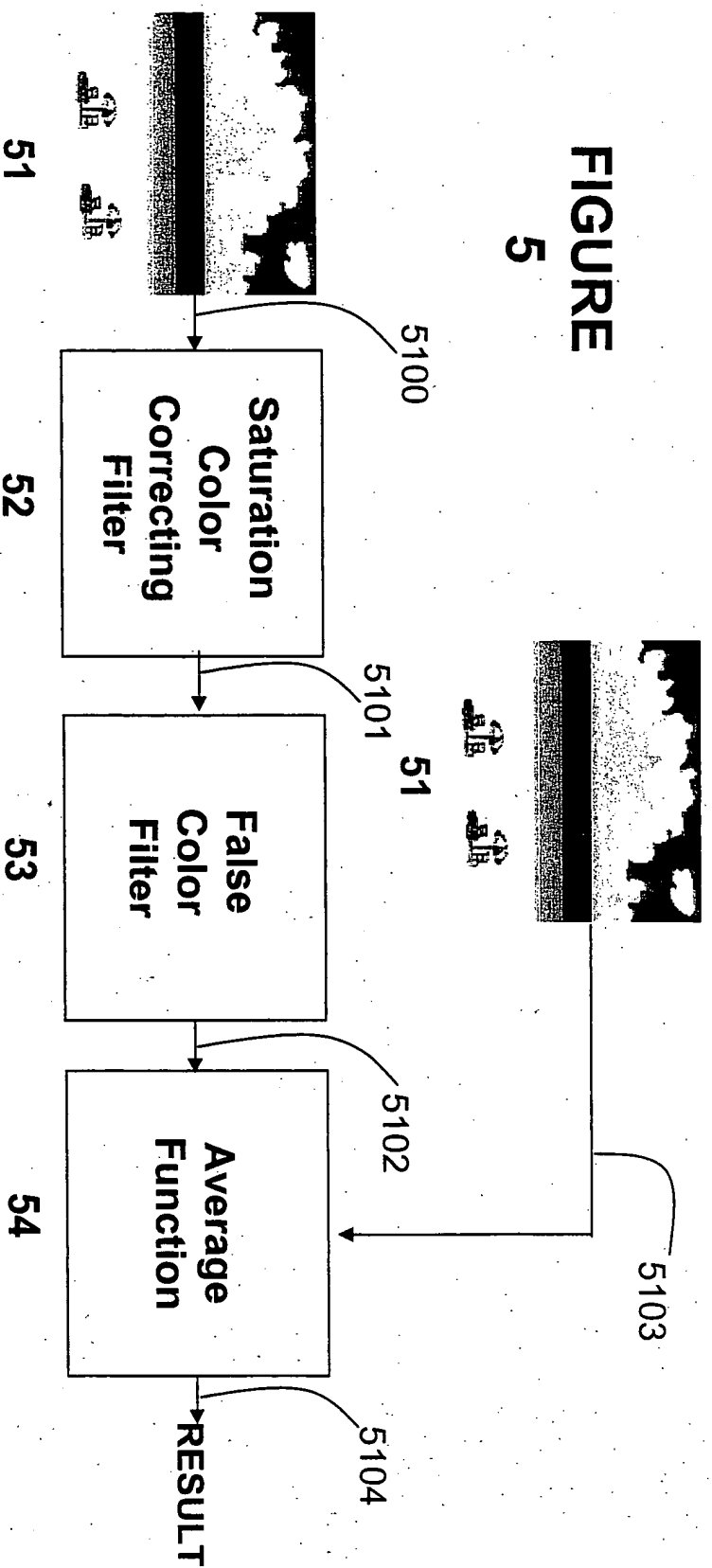


FIGURE 4

FIGURE 5



High-level Code Examples:

1. Allocate 51
2. Apply 52 to 51, parameters = (X, Y, Z, W), input = 51 (Sea Shore image), output = [place holder] CC sea shore
3. Apply 53, parameters (X, Y, Z, W), input = cc sea shore, output = [place holder] FC CC sea shore
4. Apply 54, parameters (X, Y, Z, W), input buffer 53, input Sea Shore image, output = [place holder] sea shore result

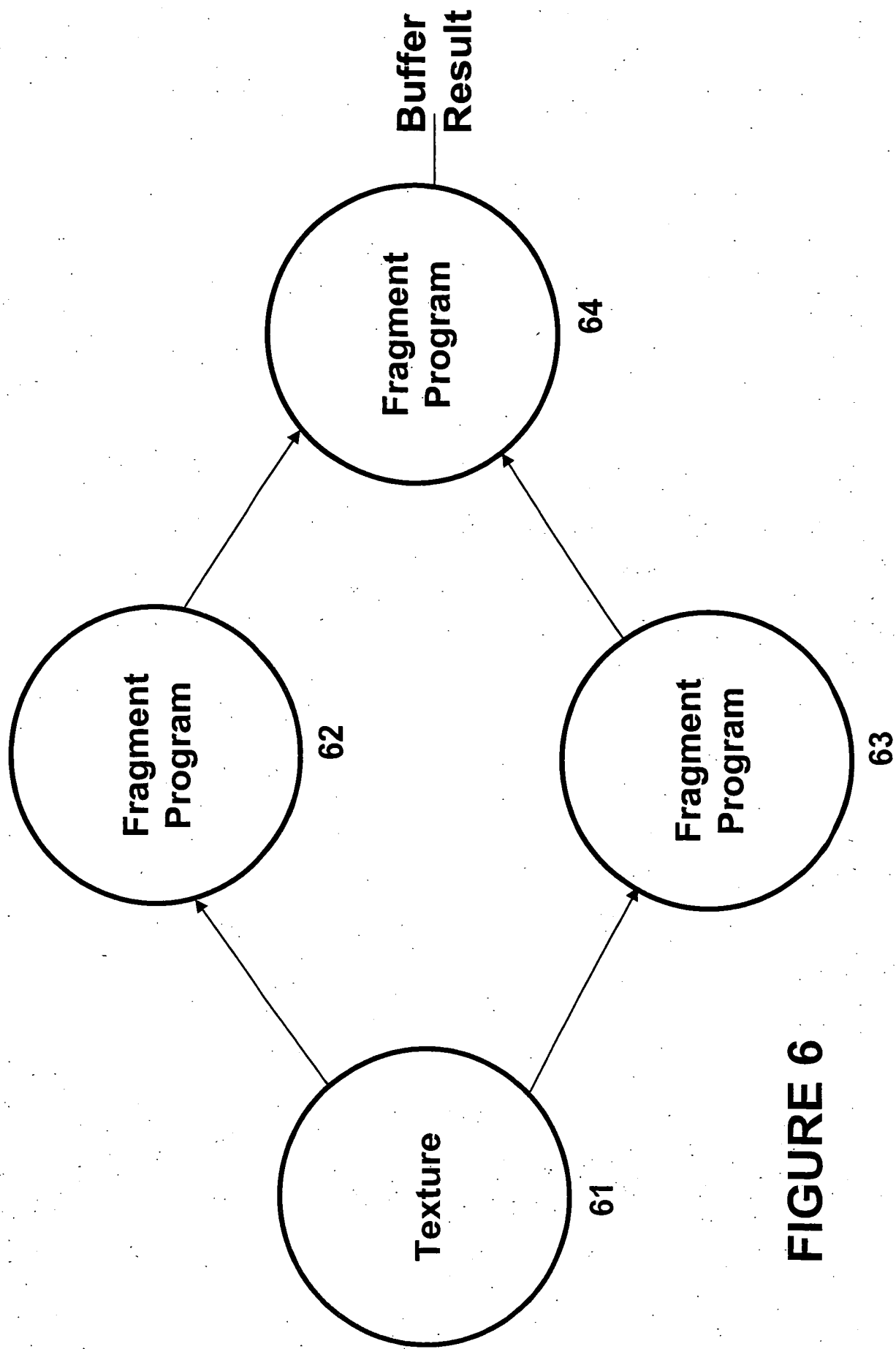


FIGURE 6

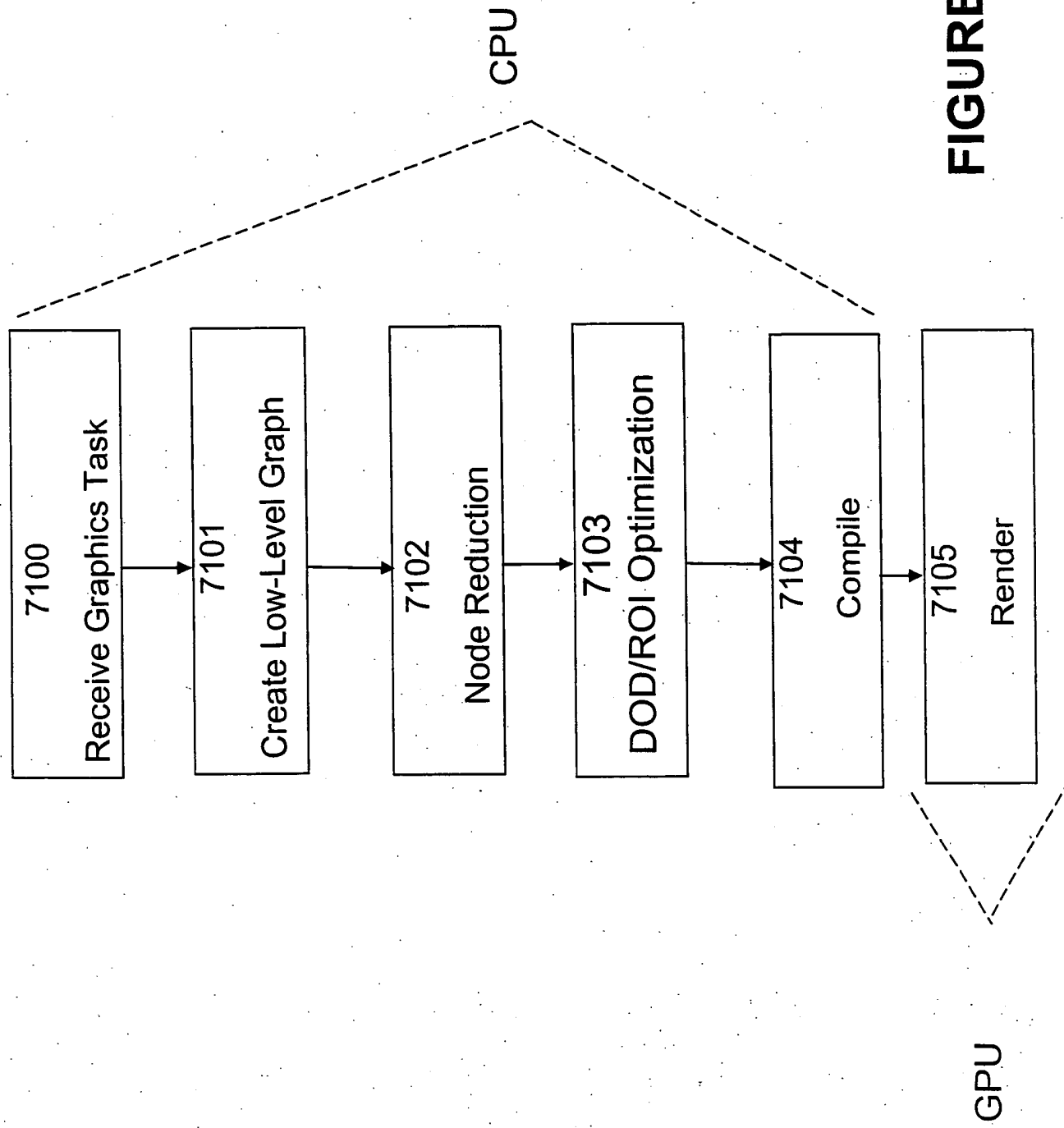


FIGURE 7

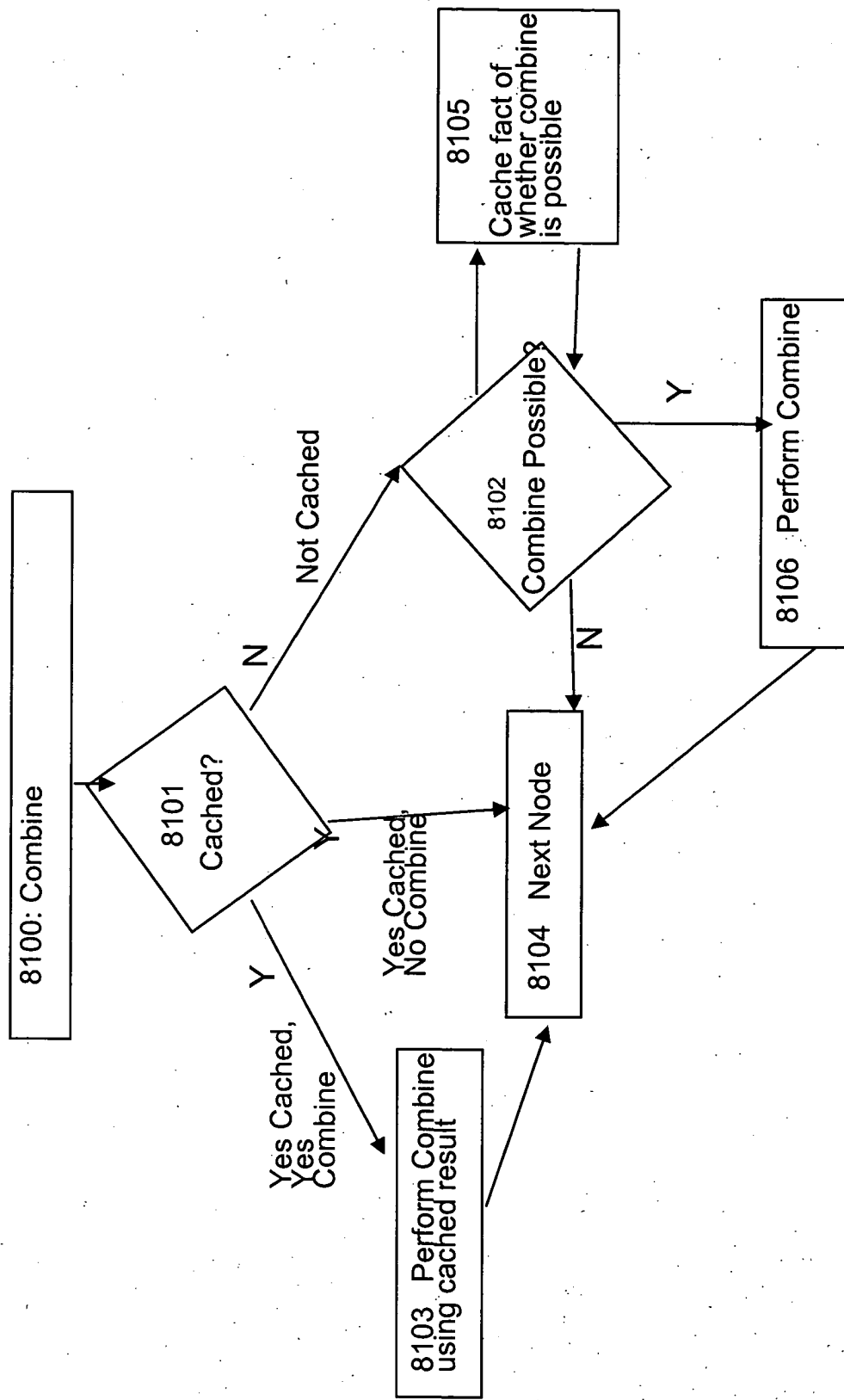


FIGURE 8

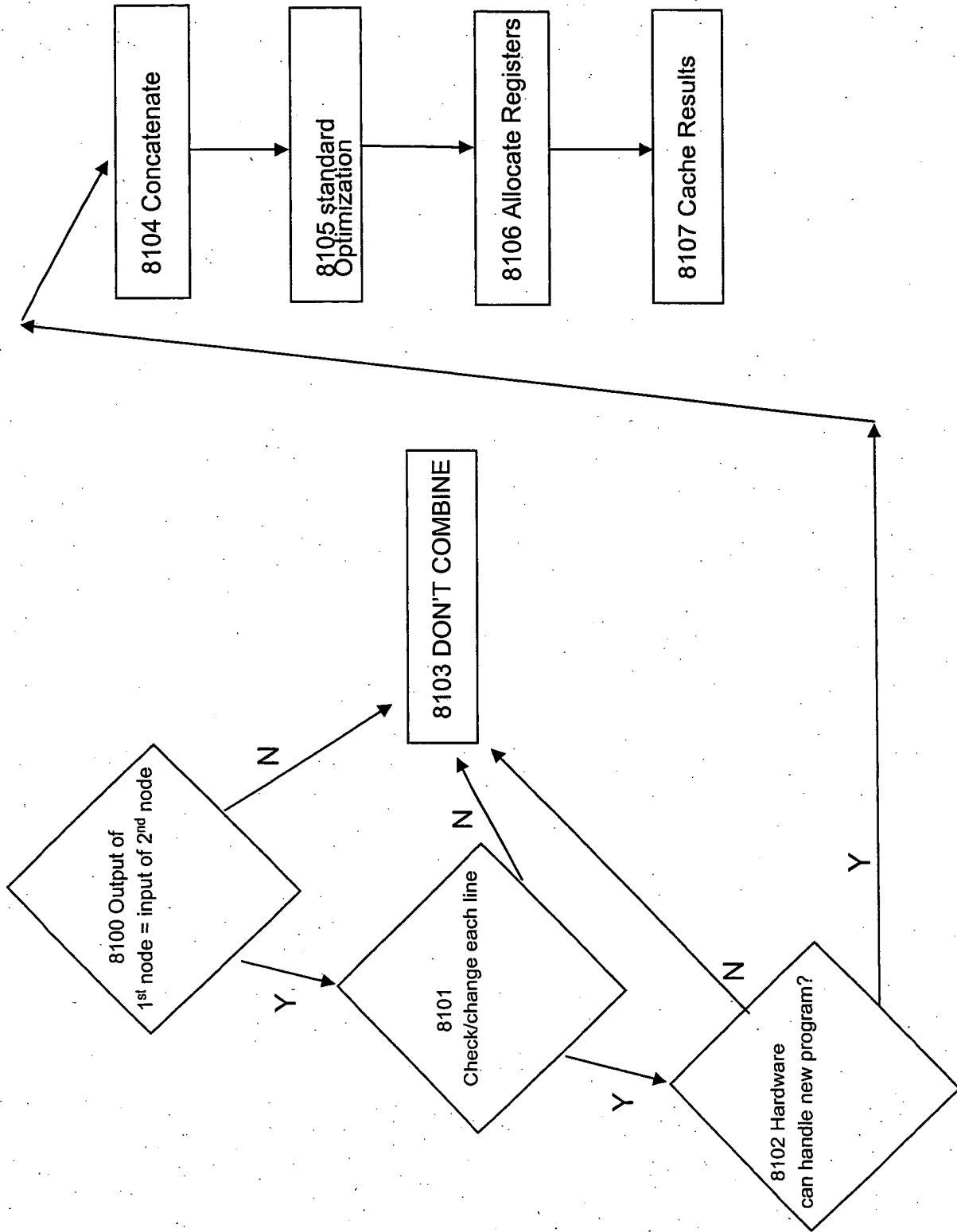


FIGURE 9

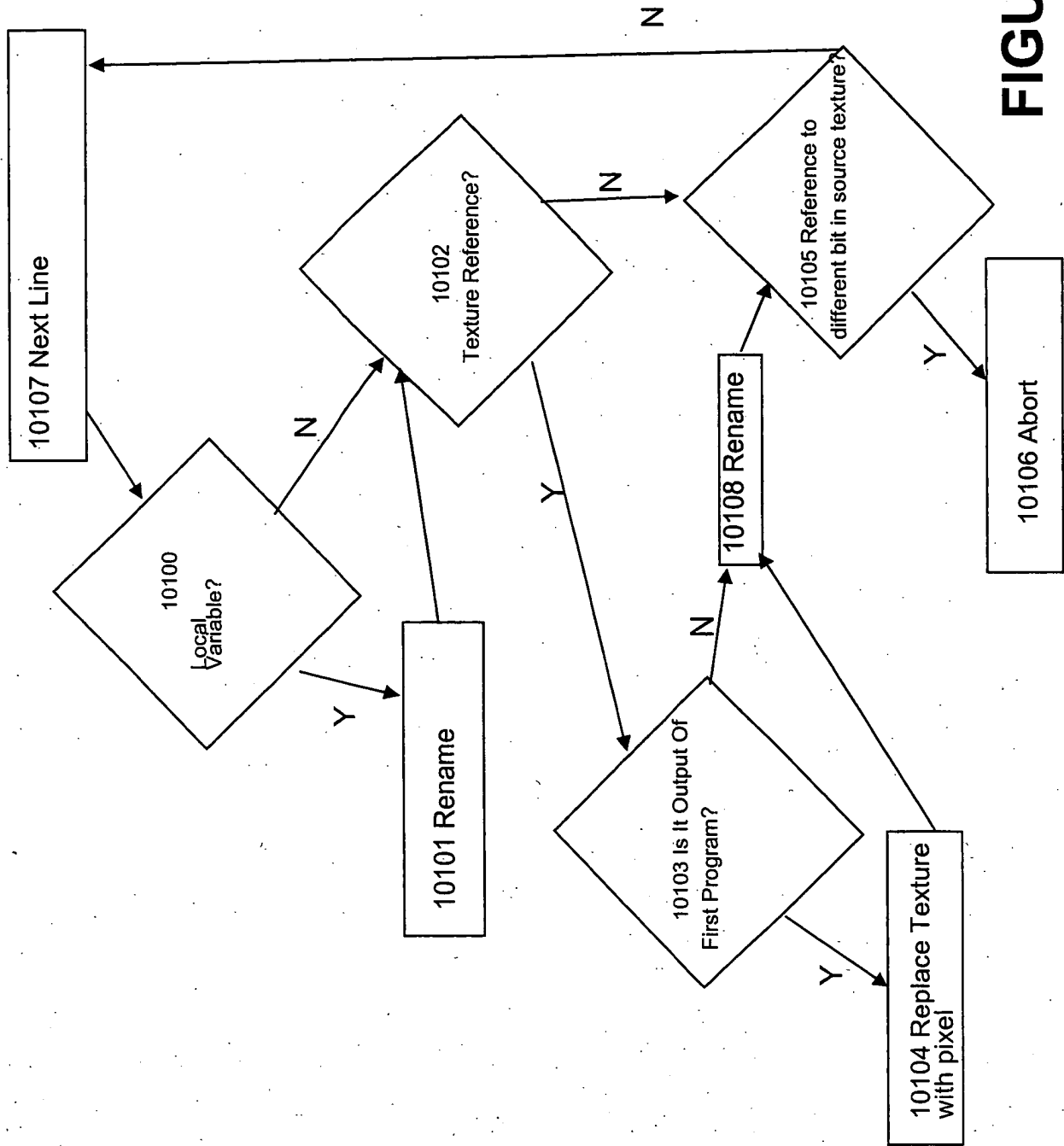
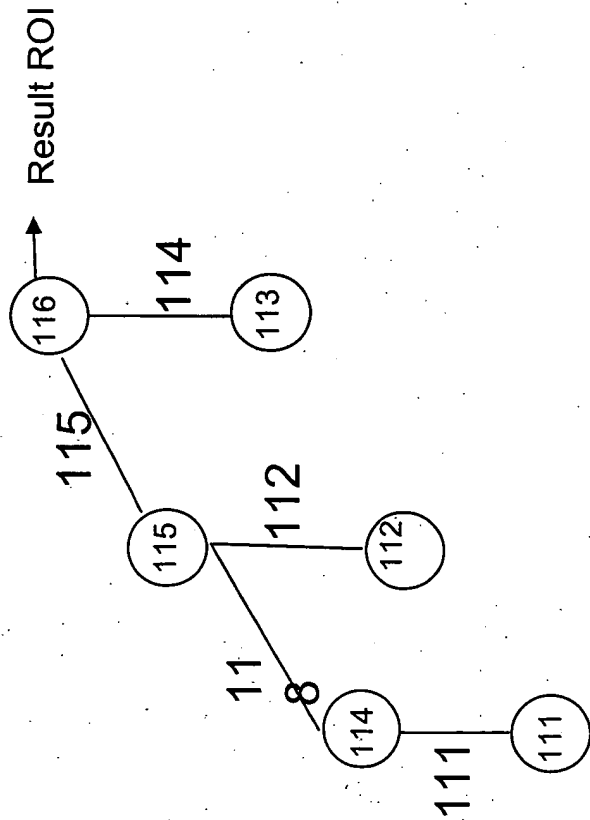
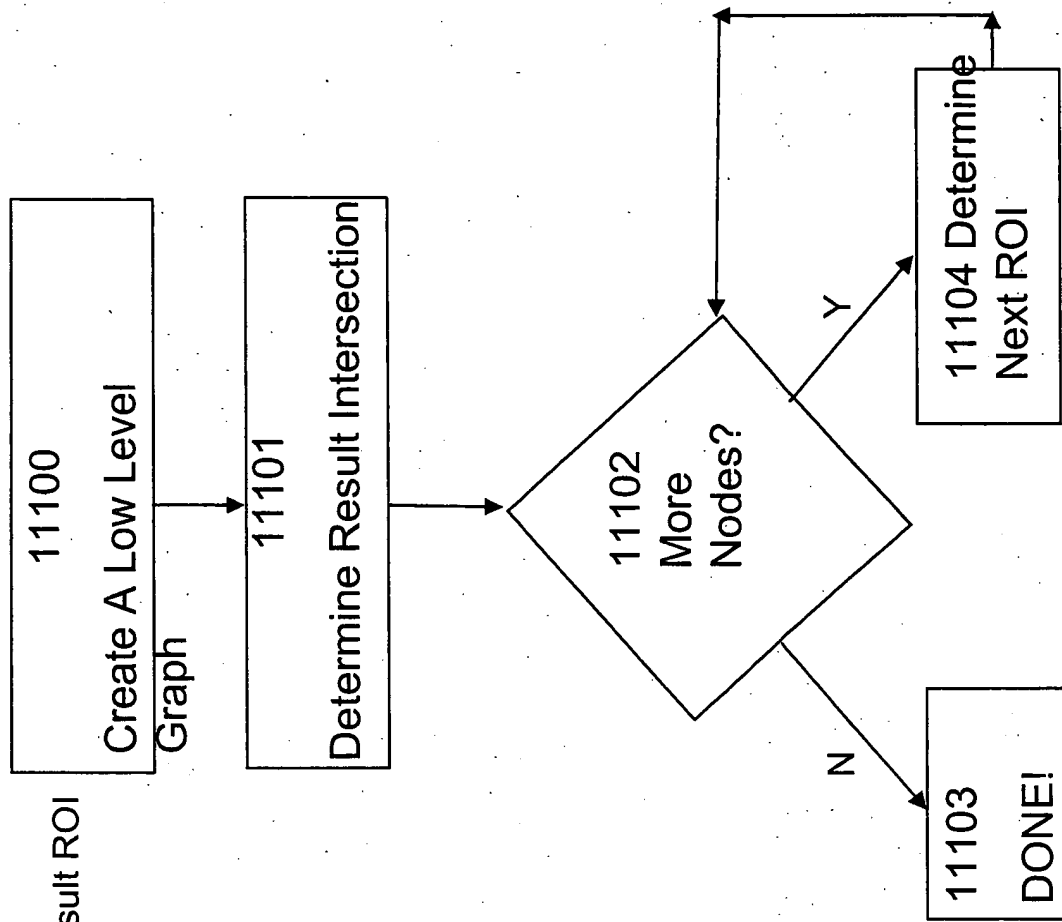


FIGURE 10



11(a)



11(b)

Figure 11

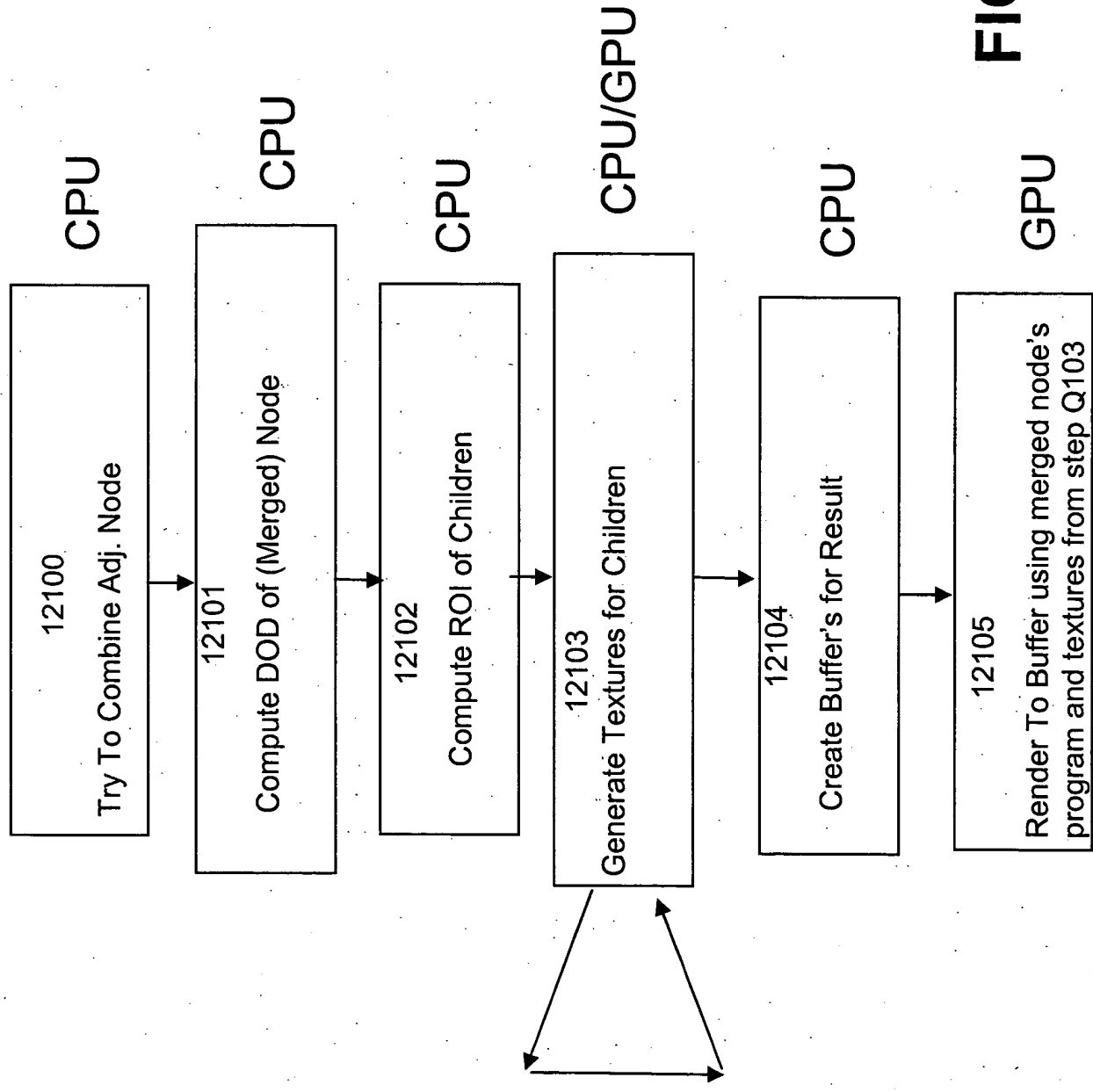


FIGURE 12

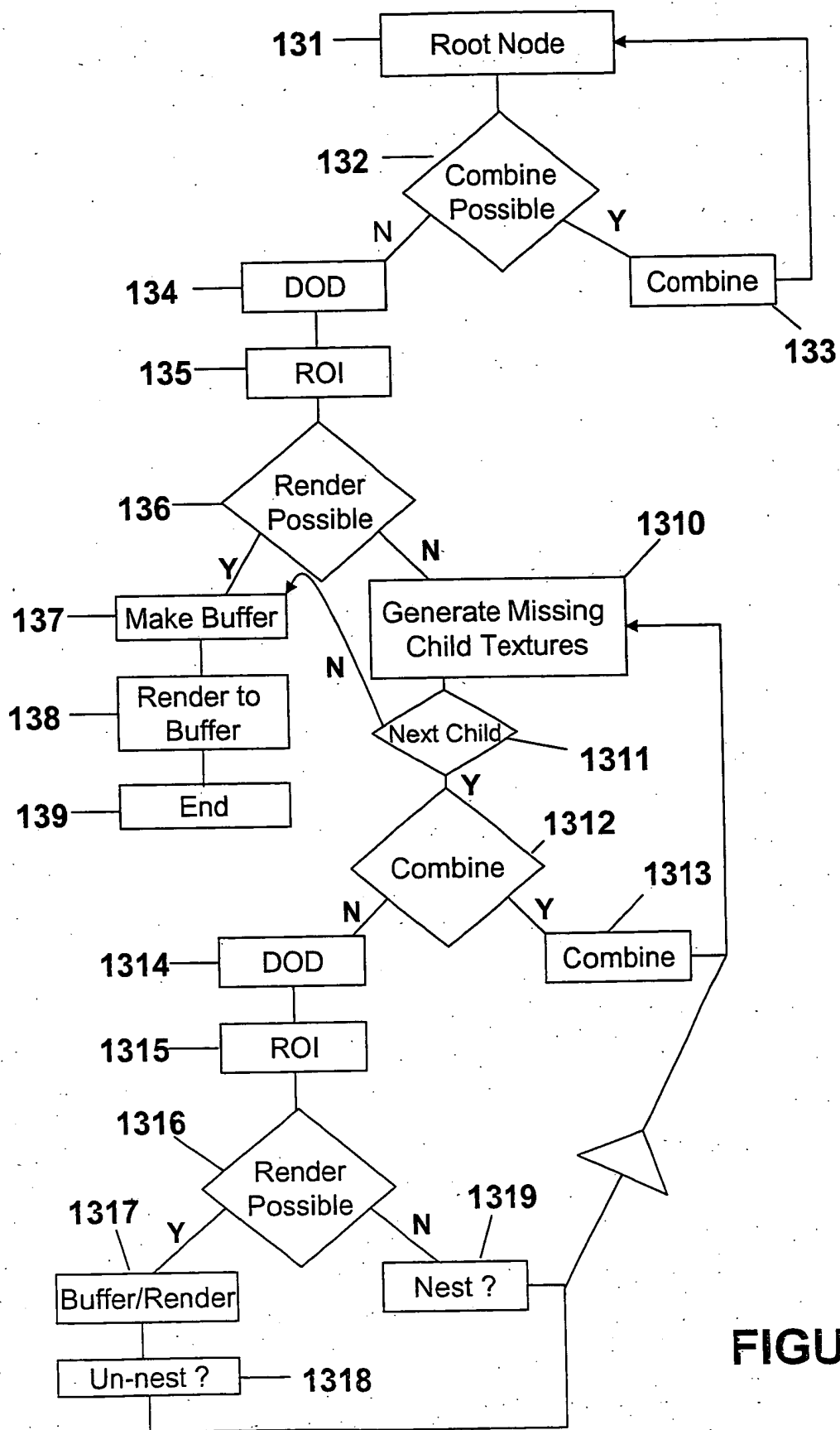


FIGURE 13

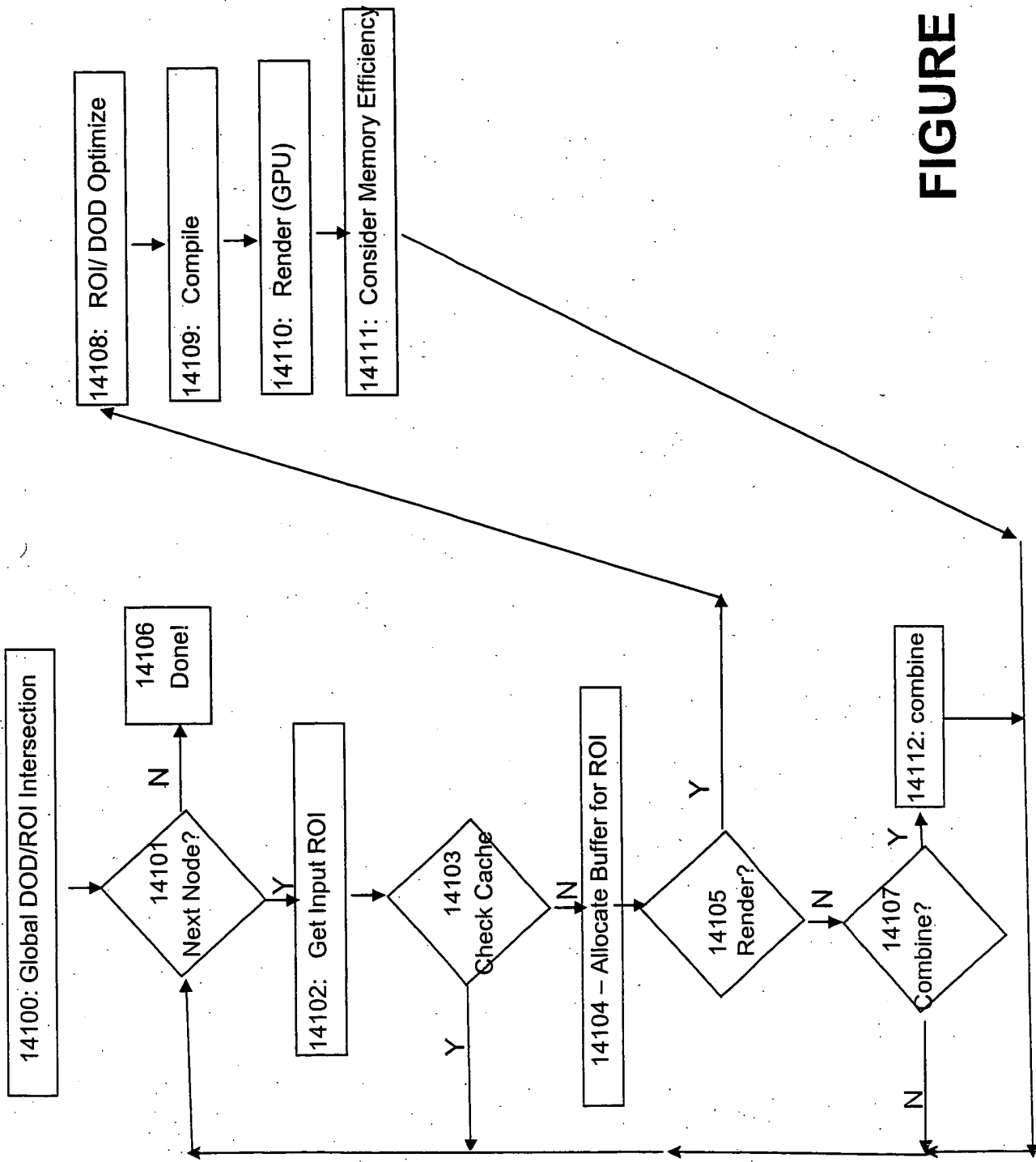


FIGURE 14

| CPU | | GPU |
|--------|---------|------------|
| Time 1 | Frame 1 | Prior Task |
| Time 2 | Frame 2 | Frame 1 |
| Time 3 | Frame 3 | Frame 2 |
| Time 4 | Frame 4 | Frame 3 |
| Time 5 | Frame 5 | Frame 4 |
| Time 6 | Frame 6 | Frame 5 |
| Time 7 | Frame 7 | Frame 6 |

15(a)

15(b)

FIGURE 15(a) & 15(b)

| | P1 | P2 | P3 | P4 |
|--------|---------|---------|---------|---------|
| Time 1 | Frame 1 | | | |
| Time 2 | Frame 2 | Frame 1 | | |
| Time 3 | Frame 3 | Frame 2 | Frame 1 | |
| Time 4 | Frame 4 | Frame 3 | Frame 2 | Frame 1 |
| Time 5 | Frame 5 | Frame 4 | Frame 3 | Frame 2 |
| Time 6 | Frame 6 | Frame 5 | Frame 4 | Frame 3 |
| Time 7 | | Frame 6 | Frame 5 | Frame 4 |

FIGURE 15(c)

| CPU | | GPU |
|------------|-------------------|-------------------|
| Time 1 | Frame 1, effect 1 | |
| Time 2 | Frame 2, effect 1 | Frame 1, effect 2 |
| Time 3 | Frame 1, effect 3 | Frame 2, effect 2 |
| Time 4 | Frame 2, effect 3 | Frame 1, effect 4 |
| Time 5 | Frame 3, effect 1 | Frame 2, effect 4 |
| Time 6 | Frame 4, effect 1 | Frame 3, effect 2 |
| Time 7 | Frame 3, effect 3 | Frame 4, effect 2 |
| Time 8 | Frame 4, effect 3 | Frame 3, effect 4 |
| | | Frame 4, effect 4 |

15(c)

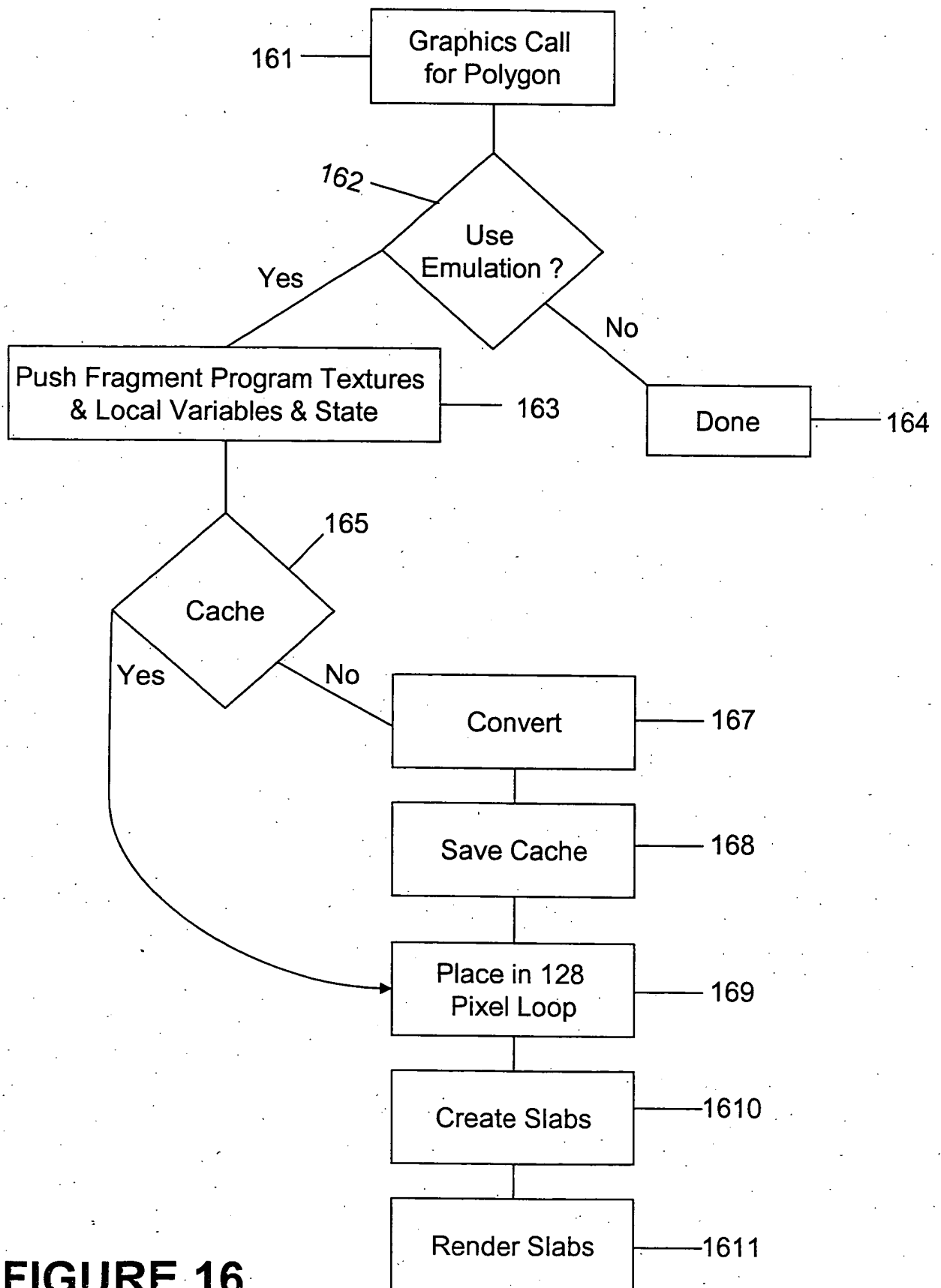
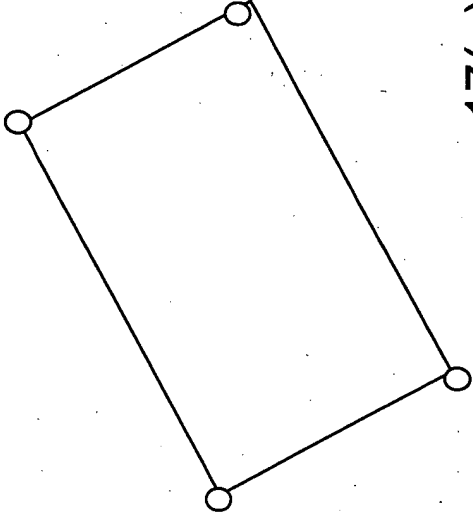
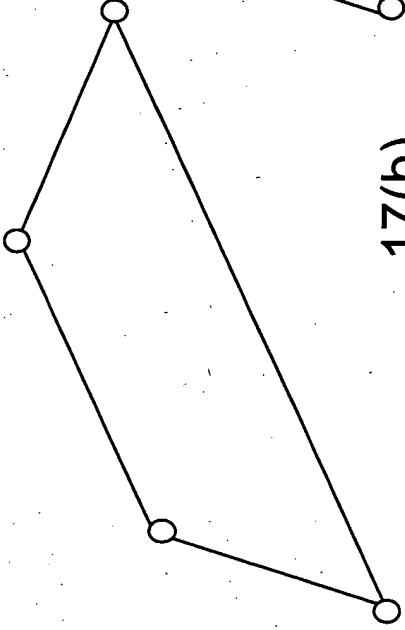
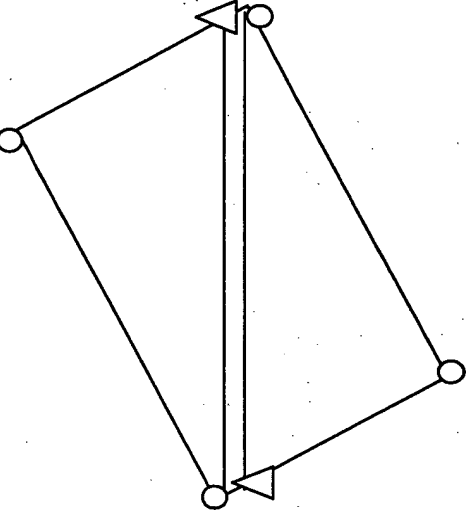


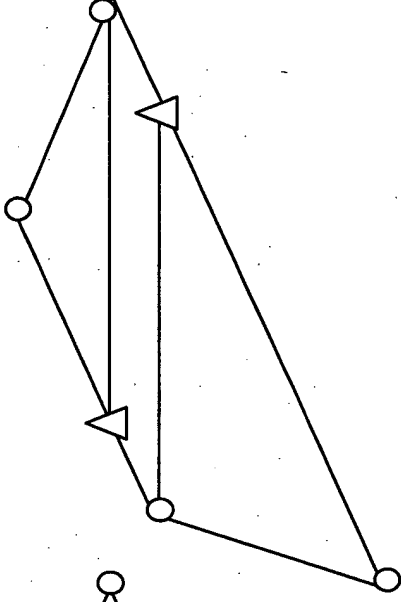
FIGURE 16



17(a)



17(b)



Figures 17(a) & 17(b)